

REMARKS/ARGUMENTS

The Examiner is thanked for the clarity and conciseness of the Office Action and for the citation of the references which have been studied with interest and care.

Claim Rejections - 35 U.S.C. § 103

Claims 1-4 and 6-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dent et al. (US-6,542,716 hereinafter, Dent). Claims 5 and 9-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Wiedeman et al. (US-2002/0032002 hereinafter, Wiedeman).

Claim 1 has been amended to recite the limitation of identifying individual component impairments of a total link degradation, and to include the limitations of canceled claim 9. In contrast with Dent, which discloses a method for determining the position of a mobile radio telephone in a satellite communication system, Applicants teach (and claim) providing satellite users with an assessment of link quality and individual indications of various link impairments that in aggregate dictate the link quality. Moreover, an advantage of Applicants invention is that it provides a mechanism for assessing link performance which is independent of the specifics of the communication system design.

The present invention distinguishes the presence and severity of the diverse link impairments that impact UHF communications. This is accomplished by transmitting two beacon signals having a CW tone and a wide bandwidth coded signal, a capability not described in the prior art. The present invention also provides an identification of specific link impairments that degrade performance and a real time monitoring capability which indicates changes in link performance as the user repositions (e.g., while attempting to better link performance).

Dent fails to disclose or suggest a mechanism for measuring the power received from the satellite that is independent of interference received by the user. Dent also fails to address the noise level at the user's location, and to describe a mechanism for determining scintillation effects. These failings are particular important for UHF communication satellites for which frequency allocation is a shared band rather than an exclusive band and interference is a common occurrence and ionospheric scintillation and manmade noise are more significant impairments than systems operating in the microwave frequencies.

Wiedeman discloses a low performance warning system and method for mobile satellite service user terminals. However, Wiedeman does not disclose or suggest a

mechanism for determining link quality as well as distinguishing between different link impairments.

For the reasons discussed above, it is respectfully submitted that claims 1-8 and 10-13 are not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Wiedeman as applied to claim 9 above, and further in view of Wiedeman (US-6,587,687 hereafter Wiedeman II). Claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Zamat (US-6,356,744). Claims 16, 18 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Zamat as applied to claim 15 above, and further in view of Hegendoerfer (US-6,326,922). Claim 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Zamat as applied to claim 15 above, and further in view of Rudish (US-6,219,006). Claim 31 was rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Dybdal et al. (US-5,781,845 hereafter, Dybdal).

For the reasons discussed above, and also considering the teachings of the additional cited references, it is respectfully submitted that claims 14-19 and 31 are not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claims 20-25 and 28-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Wiedeman. Claims 26 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Wiedeman as applied to claim 25 above, and further in view of Duggan. Claim 32 was rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Wiedeman as applied to claim 20 above, and further in view of Dybdal.

Claim 20 has been amended to recite the limitation: the processor being programmed to process data pertaining to measured signal levels of the beacon signals to provide an indication of link impairment factors of a total link degradation. Claim 21 has been canceled. Claim 30 has been amended to recite the limitation: to identify individual component impairments of a total link degradation.

For the reasons discussed above, and also considering the teachings of the additional cited references, it is respectfully submitted that claims 20, 22-30 and 32 are not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Withdrawal of these rejections is respectfully requested.

CONCLUDING REMARKS

Applicants submit that the application is in condition for allowance. Concurrence by the Examiner and early passage of the application to issue are respectfully requested.

Any additional fees which are required in connection with this communication and which are not specifically provided for herewith are authorized to be charged to deposit account no. 500651. Any overpayments are also authorized to be credited to this account.

Respectfully submitted,



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